

May 21st, 2021

KEY TAKEAWAYS

- Average daily cases per 100k Virginia residents declined to the single digits for the first time since last summer. Cases are declining or plateauing in all of Virginia's Local Health Districts - a first since UVA began reporting trajectories.
- New vaccinations have declined dramatically, while mitigation measures are being relaxed, heralding an new environment compared to April.
- Scenarios have changed to include the dominance of the B.1.1.7 variant, behavioral changes in response to surges, and different vaccination rates.
- Masks and social distancing are still recommended for people who are unvaccinated, and masks are still recommended in certain situations for those who are vaccinated.

9 per 100k

Average Daily Cases
Week Ending May 16, 2021

22 per 100k

Potential Peak Average
Fatigued Control Scenario
Daily Cases, Week Ending
August 15, 2021

17,224

Average Daily 1st Doses
May 19 2021

22,156

Average Daily 2nd Doses
May 19, 2021

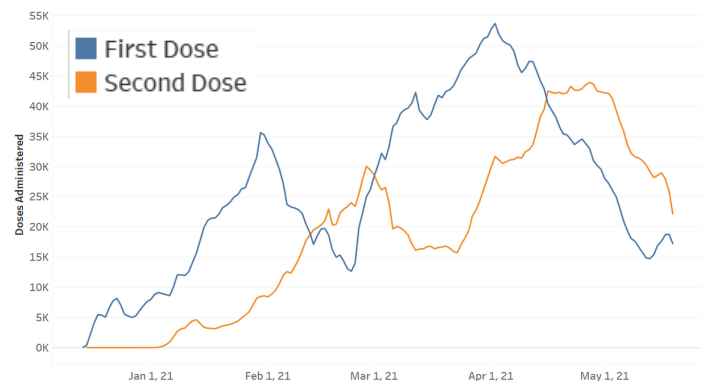
KEY FIGURES

Reproduction Rate (Based on Confirmation Date)

Region	R _e May 17	Weekly Change
Statewide	0.697	-0.080
Central	0.802	0.030
Eastern	0.694	-0.064
Far SW	0.750	-0.034
Near SW	0.711	-0.200
Northern	0.567	-0.281
Northwest	0.877	0.231

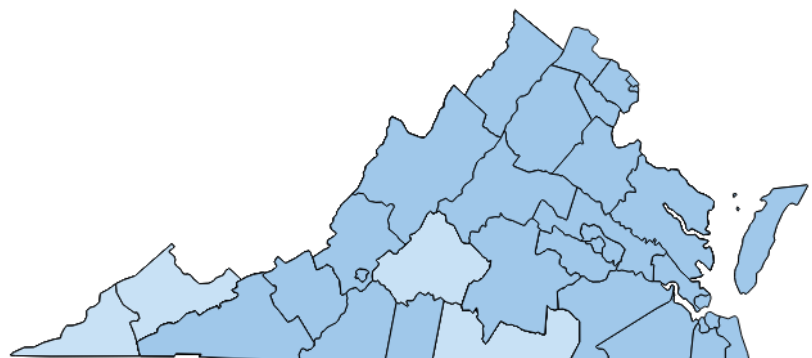
Vaccine Administrations

Virginia Vaccine Administrations: 7-day moving average



Growth Trajectories: 0 Health Districts in Surge

Status	# Districts (prev week)
Declining	31 (25)
Plateau	4 (7)
Slow Growth	0 (3)
In Surge	0 (0)



THE MODEL

The UVA COVID-19 Model and the weekly results are provided by the UVA Biocomplexity Institute, which has over 20 years of experience crafting and analyzing infectious disease models. It is a (S)usceptible, (E)xposed, (I)nfectious, (R)ecovered epidemiologic model designed to evaluate policy options and provide projections of future cases based on the current course of the pandemic.

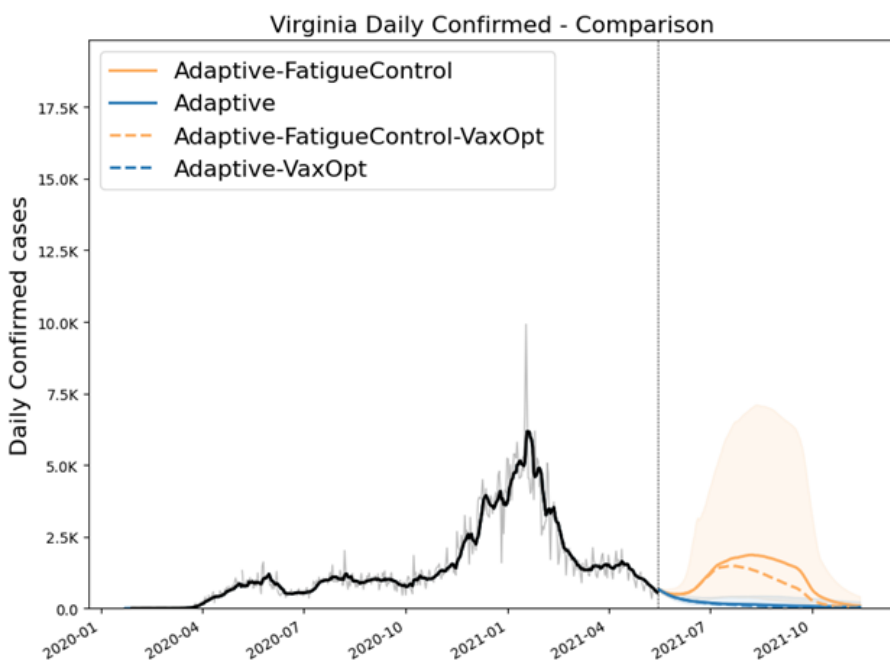
COVID-19 is a novel virus causing a global pandemic and response. The model improves as we learn more about it.

THE PROJECTIONS

The UVA team continues to improve the model weekly. The UVA model uses an "adaptive fitting" methodology, where the model traces past and current trends and uses that information to predict future cases at the local level. The model incorporates projections on the impact of vaccines, which will improve over time. Since the B.1.1.7 Variant has become dominant, the model includes increased transmission and severity associated with this Variant of Concern. The model also includes "what-if" or planning scenarios. The "Fatigued Control" scenario identifies the highest transmission rates seen during summer 2020 and projects those forward. The "VaxOpt" scenario compares the status quo vaccine acceptance levels to optimistic levels.

MODEL RESULTS

With the B.1.1.7 variant becoming predominant, the model shows a continued decline in new weekly cases along the current course, but warns of a surge in cases that could occur if Virginians relax precautions. Under the current course, model scenarios show that cases peaked at **68 average daily cases** per 100,000 residents during the week ending **January 24th**. However, under a worst case scenario, if Virginians relax their behavior for a sustained period as Variants of Concern take hold, cases could reach another peak with **22 average daily cases** per 100,000 the week ending **August 15th**. To lessen the projected peak, we must give vaccines time to have an impact, especially as the B.1.1.7 variant is the predominant strain in Virginia. **Do your part to stop the spread. Continue to practice good prevention and get vaccinated when eligible.**



A CHANGING PANDEMIC ENVIRONMENT

Since the [April 9th report](#), the UVA COVID-19 model assumed that the B.1.1.7 Variant of Concern would become dominant in Virginia, as it had in so many other jurisdictions. The model also showed that if vaccinations continued at a steady rate, and if Virginians remained vigilant, the impact of the B.1.1.7 VoC could be muted. That scenario seems to have come to pass. The B.1.1.7 VoC accounts for just over 80% of samples sequenced in Virginia. Vaccine administration rates surpassed expectations. Virginians remained vigilant. And cases declined dramatically. As of this week, average daily cases per 100k Virginia residents declined to the single digits for the first time since last summer. Cases are declining or plateauing in all of Virginia's Local Health Districts - a first since UVA began reporting trajectories. These successes demonstrate what we can achieve when all of us do our part to stop the spread.

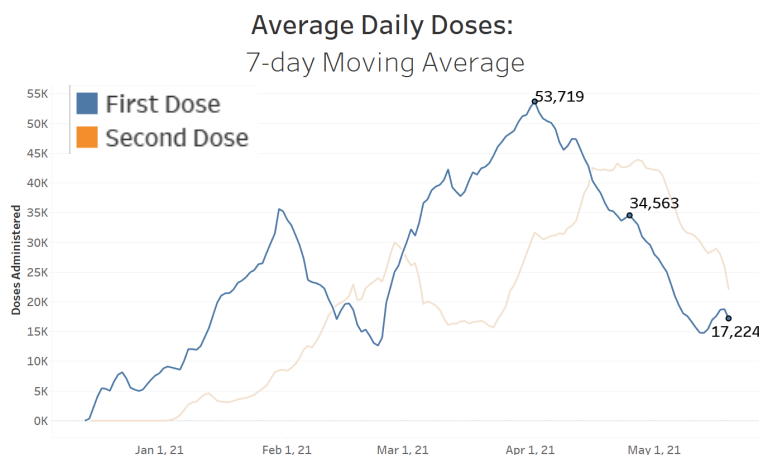
Different Environments

Over the past few weeks, however, the situation has changed dramatically. After peaking at almost 54,000 on April 3rd, the seven-day moving average for new vaccinations has plummeted to 17,000. This despite widening eligibility. Following new CDC [guidance for fully vaccinated individuals](#), Governor Northam [announced](#) changes to Virginia's mask mandate, and that Virginia will ease all distancing and capacity restrictions on May 28. This is great news for fully vaccinated individuals and communities with high vaccination rates. However, the threat of COVID-19 remains high for unvaccinated individuals and communities with lower vaccination rates. Indeed, the risk for these groups is higher than ever. The B.1.1.7 VoC is more transmissible and severe than the wild type. New and more dangerous variants, such as

the B.1.617.2 variant that has ravaged India, continue to arise. As a result, CDC [guidance for unvaccinated individuals](#) is as strong as ever. Virginians must still do their part to stop the spread.

Changes to Model Scenarios

The model demonstrated the positive impact of vigilance and high vaccination rates on COVID-19 cases. The "fatigued control" scenario, on the other hand, showed the risks if Virginians relaxed their vigilance with VoCs dominant. This week, the UVA team implemented changes to these scenarios that reflect the new environment. First, the B.1.1.7 variant is now dominant, so its increased transmissibility is now baked into past data. The effect on projections is minor as the model was already adjusted based on contemporary prevalence of B.1.1.7. The Fatigued Control scenario was also adjusted to reflect increased prevention efforts seen following previous surges in cases, reducing the scale these scenarios. Even with these limits, cases could reach peaks higher than seen last summer, showing that the number of unvaccinated Virginians is still large enough to cause large spikes, particularly in communities with low vaccination rates. Finally, the model includes optimistic vaccine scenarios, which show the potential impact if vaccination rates return to those seen in April, with higher overall acceptance levels.



Despite bumps associated with widening eligibility, new vaccinations in Virginia have continued a precipitous decline. Until a preponderance of individuals in all of Virginia's communities are vaccinated, COVID-19 remains a threat to unvaccinated individuals and communities with low vaccination rates. Do your part to stop the spread. Get vaccinated when eligible, and maintain prevention measures until fully vaccinated.